View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Elsevier - Publisher Connector

THE HISTORY OF LUPUS VULGARIS[1,2]

H. E. MICHELSON, M.D.
Minneapolis

How the Latin word of wolf, lupus, came into the literature has not been discovered. Certainly it was used as far back as the Middle Ages. In the old medical writings this richly connotative term was not used to designate a specific disease, but was applied to a skin lesion which had the ability to devour flesh.

Virchow (1) made an effort to establish the origin of the term in medical usage and his searches in the ancient literature led him to believe that it has been so employed by lay people in the Middle Ages. It was at first believed that Paracelsus may have invented the term. However, John Manardus (1462–1536) said that certain ulcers of the lower leg which destroyed the surrounding parts were assigned this name "as if a hungry wolf is eating the flesh closest to it." Paracelsus (1493–1541) was a younger contemporary of Manardus and could have borrowed the term from him, but historians had pointed out that Paracelsus spoke in various places of lupus as of something which was very well known and needed no interpretation. It is not clear just what lesions Paracelsus included in his use of the term. He stated: "Different is the structure of lupus, different of fistula." For him lupus was a skin lesion that devoured whatever had a greater blood supply. As treatment for the disease he therefore recommended blood letting.

Further researches by Virchow disclosed that the term was in use long before the time of Manardus. One of the oldest German medical books, that of Johann Tollat von Vochenberg, written in the beginning of the 15th century, contained the phrase, "for the wolf and for the cancer caprifolin." In the surgical treatise of Roger of Parma of the Salerno school, written about the end of the 13th century, the following passage is found in medieval Latin: "Sometimes lupus arises in the thighs and the lower legs [and is] distinguished from cancer by the symptoms mentioned above. When a distinction has been made between cancer and lupus, etc., there then can be made an incision with three fingers from the root and let the tow of flax be placed on top with egg. On the first day let it be burned carefully; thereafter let it be treated with powder and ointments as in the case of cancer." No passage explaining the distinction between lupus and cancer could be found. Roger spoke of the classification of tumors as used by Galen; namely phlegmone, herpes, esthiomenos, zona and cancer. He did not identify lupus and esthiomenos, but mentioned them separately, as did Paracelsus.

This differentiation was especially clear in the Surgery of Roland who set up a number of sub-types of cancer: "In the early stages it is called sclirosis (hardening) or negrosis (black disease). After it begins to rot, it is called cancrena; finally it is called cancroma. [Here should probably be read: "gangrene"

[1] From the Division of Dermatology and Syphilology, University of Minnesota, H. E. Michelson, Director.

[2] Presidential Address, Read before the Seventh Annual Meeting of the Society for Investigative Dermatology, San Francisco, California, June 30, 1946.

and "cancer"]. He reported that cancer on the face was called "Don't touch me" for the doctor's precaution; that in the middle of the body it was called cingulum, and stated, "However, in the lower body, as in the feet, thighs and hips, it is called lupula [little she-wolf] and it is incurable because the feet are solider parts and it is to be expected that every property in a harder substance impresses its work more strongly and firmly; and for that reason it is incurable in this place. A plaster for lupus is made from violets, roses, a morsel of wheat bread, especially well-mixed, and it destroys it very certainly at the early stages."

In his chapter of lupus and its symptoms and treatment, de Renzi, in a Latin poem, mentions the placing of the flesh of a hen on the "sick place" and when the consumption of this (i.e. the eating of the hen flesh) has been brought about, that will show that the lupus is still active. This leads one to believe that the term lupus when originally applied may have meant that the lesion did not necessarily eat the flesh in which it was located, but could devour flesh placed upon it.

It seems to be clear that from Roger down to Manardus, lupus was regarded as an affection of the lower extremities, and that in these three centuries the affection of the nose and face which was later described as lupus did not bear this name. As Virchow pointed out, the term was used very loosely in the Middle Ages. He quotes Hans von Gersdorf as one of the first medical writers to refer to an affection on the face as lupus: "Leprosy is recognized most clearly in the nostrils, since they show very definite symptoms. It is also sometimes called woef since it contaminates all the limbs of man, as lupus cancrosus does."

Later on Virchow, in a further note on the history of lupus, notes from the surgery of Riolanus: "Take care, however, lest, deceived by similarity of names, you confuse lupia and lupus. For lupus is a corroding sore in the thighs; on this, lest it eat up the contiguous flesh, we apply a little piece of flesh because it seems the hungry wolf eats it."

The idea that lupus was a kind of cancer of the lower leg, as it had been conceived among the Salerno school, remained until the end of the 16th century.

Kaposi (2) concerned himself considerably with the origin of the term lupus, incorporated the findings of Hebra in his work, and quoted Johannes Soleus as using the term in about 1710 to designate an eating ulcer of or around the nose.

About this time, dermatologic writings gave better descriptions of lesions, and the term lupus was usually modified by the addition of an adjective, showing that various forms or modifications of the condition known as lupus were being identified.

Willan (3), the accepted founder of British dermatology, whose book was published in 1808, is credited with reserving the term for a nodular eruption on the face which progressed to ulceration. The condition became known as lupus Willani, but neither Willan nor his faithful associate Batemean had a clear conception of the etiology of the disease.

In Biett's (4) "Cutaneous Diseases," published in 1829, a chapter called "Order IX" is devoted to lupus, and the synonyms Datre rongeante, Lupus vorax, and Herpes exedens are given. The chapter contains 19 pages and the descriptions are accurate and practical. This writer stated that Alibert described the

disease as Dartre rongeante and divided it into three types: 1) Dartre rongeante idiopathique, 2) Dartre rongeante scrophuleuse, and 3) Dartre rongeante venerienne, the last, from the description, evidently belonging to syphilitis complaints. Biett called attention to the great differences in location, progress, and destructive properties of the lesion and noted that there were three main varieties: 1) One which destroyed the surface, 2) One which destroyed the adjacent parts, and 3) One which was accompanied by hypertrophy. He emphasized that the lesion usually began at the nose and that, although other parts could be involved, the disease was manifested largely on the face. He described it as beginning with small red indolent swellings which had been called tubercles, but remarked that it should not be classed with tubercular inflammations, for very often the primary lesions were not tubercles. He recognized the type beginning on the nasal mucosa and also described the type which began at the end of the nose as an indolent swelling of livid hue, probably what we today might call the lupus pernio type of sarcoid.

Biett's descriptions leave little to be desired. They are excellent, and when he discusses the causes, he mentions the frequent occurrence of lupus in scrofulous children. He clearly differentiated lupus from noli-me-tangere, a term which he said should be restricted to cancerous affections. The prognosis he pronounced as unfavorable, and he insisted upon both general and local treatment. All in all, Biett knew lupus very well indeed.

Wilson's (5) "Diseases of the Skin," third edition, devoted a chapter to lupus which was followed by one on scrofuloderma. Wilson said that the term lupus or wolf is applied to a disease as suggestive of destructiveness and took its origin in a form of a cutaneous affection which is remarkable for its destructive nature; namely, lupus exedens, called also and for the same reason, lupus vorax. He stated that although destruction was prominent, it was preceded by thickenings called tubercles. Hence lupus was considered a tuberculous disease. Wilson independently had seen non-ulcerating lupus as described by Cazenave and also had seen syphilitic affections, expecially the hereditary type which simulated lupus. He said that lupus had three varieties: lupus erythematosus, lupus non exedens, and lupus exedens. He stated definitely that "lupus depends upon a scrofulous taint of constitution, syphilitis taint may be the more correct expression," and emphasized the need of local and general treatment.

Rayer (6), in 1845, in his "Diseases of the Skin," which excels in its historical references, offers a number of ancient references and accredits the term lupus to Willan. He also associates lupus with scrofuloderma and describes cases of lupus of various types occurring in scrofulous subjects. Neligan (7) published an atlas of skin diseases in 1865 and the sketches and text on lupus suggest that much confusion existed. Especially interesting is the use of the term lupus devorans for a case of Jacob's ulcer, which is now known to be epithelioma.

Lupus continued to designate a destructive cutaneous conditions, but gradually came to be used mostly for facial lesions which spread centrifugally and might heal centrally either with scar or atrophy. Tilbury Fox (8) in 1887 described the various conditions which had previously been included under this designation and said that the term lupus vulgaris was more generally employed to signify

all non-ulcerating phases of the malady. He insisted that all forms of lupus were just degrees of the same thing. Fox was the first to use the term lupus vulgaris as far as I can find. He also was inclined toward the tuberculous etiology and described the micropathologic changes, referring to the findings of his friend Auspitz as published in "Uber die Zellen-infiltrationen der Lederhaut bei Lupus, Syphilis und Scrofulose," Wien 1864. Fox praises Auspitz, Neumann, and Rindfleisch as the early investigators of the morbid anatomy of lupus and acknowledges the indebtedness of dermatology to those men for their contributions. Auspitz mentioned lupus cells and evidently thought them to be quite characteristic. From the description, I judge they are the epithelioid cell of today.

Hutchinson (9) delivered the Harveian Lectures on lupus in 1888, and added much that had not previously been clear. He admitted the bacillary origin of lupus, but very shrewdly observed that proclivity was also necessary in order to develop lupus and particularly stressed the social, hence nutritional, levels of lupus patients. No better basis for an understanding of lupus can be found than these three splendidly comprehensive lectures. He was the first to use the term 'apple jelly nodule" in describing its peculiar transparency. He did not mention diascopic examination, a procedure which Unna introduced to dermatologic examinations. The differences between lupus vulgaris and lupus erythematosus were outlined in detail. The clinical varieties of lupus vulgaris were all carefully delineated, and Hutchinson was thoroughly familiar with the acneiform and follicular forms of cutaneous tuberculosis, which he described as forms of lupus vulgaris. Little to date has been added to the knowledge of lupus vulgaris and one is stirred with admiration for Hutchinson's erudition.

The first really important step toward a better conception of tuberculosis had been made by Villemin (10), who in 1864 told the members of the Academy of Science in Paris, that tuberculosis is infectious. He was the first worker who was able to produce tuberculosis in a rabbit by inoculating it with human tuberculous material. Like most epochal observations, his findings were viewed with scepticism. Orth (11) rightly called Villemin the founder of the modern conception of the infectiousness of tuberculosis.

The modern concept of the miliary tubercule goes back to Bayle (12) who at the beginning of the 19th century traced the development of this lesion through to the point of caseation. Besides animal experimental work on tuberculosis, histopatholical examination of the structure of the tubercle was carried out. Forster (13) in 1855 was the first to describe giant cells and epithelioid cells in lupus tissue. His observations were later confirmed by Langhans (14) in 1868, after whom the tuberculosis giant cell is named, and later by Schueppel (15) and by Friedlander (16).

Little was known about the nature of lupus vulgaris at that time, although Waldenburg (17), working on tuberculous guinea pigs, observed in five animals a skin condition which simulated lupus vulgaris.

Friedlander in 1873 stated, on the basis of the histopathologic findings made by Langhans, Schuppel, and himself, that lupus and scrofuloderma were two related conditions. Since the histopathologic findings in lupus and scrofuloderma were analogous with those seen in tuberculosis, he believed that both conditions

represented forms of skin tuberculosis. But under the rigid domination of a morphologic descriptive pathology, analogy was not enough, and his critics were fast in pointing out that the main characteristic finding for tuberculosis, the caseation, was missing in lupus. They also stressed the fact that giant cells could be found in non-tuberculous processes, such as syphilis. Volkman (18) recognized an extremely close relationship between lupus and tuberculosis and recommended the term "tuberculoid" for the lupus nodule. The majority of the French authors held sternly to their belief that lupus was a form of scrofulosis and not a separate entity. Homolle (19) thought it to be an "exquisit-scrophulosis" disease and names it "scrophulide." Hutchinson (20) observed scrofulosis in 18 of his 77 lupus patients, which caused him to accept for a time the French point of view.

The experiments of Schuller (21) and Hueter (22) who produced tuberculosis in animals by transferring lupus material, were too sporadic to be convincing. The former investigator claimed a micrococcus as the causative organism of tuberculosis and lupus, and was thus following a wrong road.

The monumental work of Robert Koch in 1882 established for the first time a firm foundation for tuberculosis research. Baumgarten (23) discovered the tubercle bacillus independently of Koch and almost at the same time. Koch's discovery stimulated a tremendous amount of research and re-examination of the lupus question. Demme (24) was the first to demonstrate tubercle bacilli in sections of biopsy material taken from six lupus patients. These findings were shortly confirmed by Pfeiffer (25), Doutrelpont (26), Schuchardt and Krause (27), Cornil and Leloir (28), Martin (29), and by Koch himself. Vidal's (30) autoinoculation experiments, however, failed.

Despite the apparently overwhelming evidence that lupus was caused by the tubercle bacillus, it was not generally accepted as fact. The inconsistencies of findings in experiments and the rarity with which tubercle bacilli were found in lupus tissue, caused many workers to doubt the true tuberculous nature of lupus; they believed, rather, that it represented an attenuated form of tuberculosis.

I reviewed by title the articles on tuberculosis of the skin which appeared in the three German and leading French dermatological journals from their beginnings up to the present. In all, about 400 papers on the subject were written. From the titles I could not discern any particular direction in the line of thought. Many of the earlier articles were concerned with local treatment such as the use of pastes, caustics and expecially surgical extirpation.

When tuberculin came into general use as a therapeutic agent it was applied to patients with lupus vulgaris, but soon was abandoned. Much attention was paid to morphological descriptions with reference to the similarity of lupus vulgaris and rhinoscleroma and certain pyodermas.

The use of light and x-ray therapy especially the Finsen and Kromayer lamps were given much attention. Many drugs were tried externally and internally and often were hailed with great enthusiasm but soon fell into disuse because of the disappointing results. Lupus vulgari remained a very recalcritant disease.

Epithelioma and sarcoma as complications were the subjects of a large number of reports.

There were only a few articles which attempted to analyze the geographic distribution, the social level of occurrence or the constitutional findings in lupus vulgaris. Efforts were made to correlate internal and cutaneous tuberculosis and the relationship of lupus vulgaris and lupus erythematosus throughout the years, as today, aroused the curiosity and interest of all concerned.

Lupus vulgaris as a public health and social problem was given much attention in the more recent years.

Dietetic treatment of lupus vulgaris got an impetus with the discovery of the benefits from a salt free diet which led to the recent use of Vitamin D and calcium as advocated by French and English writers, and glowing reports extoling the value of this treatment are not appearing. Here we may have the explanation for the benefits of the Finsen light treatment or maybe a deficiency state of one type or another is the prerequisite for a tuberculous infection assuming the form of lupus vulgaris.

A review of the literature reveals that a slow but steady progess has been made in our knowledge of cutaneous tuberculosis. Much is yet to be learned. We need a more perfect method for recovering and identifying bacilli from a suspected lesion so that our diagnoses may be more certain. There is still too much reliance on morphology and on the presence of tuberculoid structure in the histologic preparation. A more certain cultural procedure and an accurate serological test would be a great help. Diagnosis and therapy of cutaneous tuberculosis are still great fields for research.

The morphology and histology of the various types of cutaneous tuberculosis are well known and the studies of Willan, Hutchinson and Biett made it possible to conceive of the existence of tuberculous cutaneous lesions which were not destructive and which did not go on to caseation, lesions which, although progressive, could last for years without greatly impairing the health of their bearers, and when less virulent, even went through a rather rapid evolution and disappeared. This led to the theory of tuberculides as advanced by Darier. A variety of lesions were discovered to be of tuberculous origin whose virulence was much below that of lupus vulgaris, whose bacillary content was very low, but whose anatomic structure was consistent with a tuberculous etiology.

The work of Neisser, Jadassohn, Lewandousky, Pautrier, and others has extended our knowledge of tuberculosis involving the integument. There are still many challenging problems closely related to this group of diseases. I need only mention lupus erythematosus and sarcoidosis, but with the brilliant historical background that we possess, dermatology should accept the challenge and in solving these problems make another step forward in building up that framework of general pathology which rests on dermatologic discoveries.

REFERENCES

1. Virchow, R.: Historische notizen uber lupus. Arch. f. pathologische Anatomie und Physiologie und fur klinische Medicin., Bd. **32:** Hft., 1, pp. 139, 547.
2. Kaposi, M.: Pathologie und Therapie der Hautkrankeiten. Urban & Schwarzenberg, Vienna, 1893.

3. WILLAN, R.: Cutaneous Diseases. Johnson, St. Paul's Church Yard, London, 1808.
4. BIETT, M.: Cutaneous Diseases. Carey, Lea & Carey, Philadelphia, 1857, p. 313.
5. WILSON, E.: Diseases of the Skin. 3rd edition, Blanchard & Lea, Philadelphia, 1857, p. 289.
6. RAYER, P.: Diseases of the Skin. Carey & Hart, Philadelphia, 1845, p. 259.
7. NELIGAN, J.: Atlas of Cutaneous Diseases. Lea & Blanchard, Philadelphia, 1865, p. 36.
8. FOX, TILBURY: Skin Diseases. J. H. Vail & Co., New York, 1887, p. 369.
9. HUTCHINSON, J.: Harveian Lectures on Lupus. B. M. J., **1:** 1888, pp. 6, 58, 113.
10. VILLEMIN, J. A.: Cause et nature de la tuberculose. Bull. Acad. Imper. Med., Paris, 1865, pp. 31, 32, 152, 897.
11. ORTH, J.: Uber einige tuberkulosefragen. Berl. Klin. Wchnschef., **55:** 76, 1918.
Welche morphologische Veranderungen konnen durch Tuberkelbacillen erzeugt werden. Verh. dtsch. Path. Ges., 1900/01.
12. Bayle: Remarques sur la Tubercules. J. Acad. med., chir., pharm., Germinal Au. XI.T. VI, Paris, 1810.
13. FORSTER, A.: Handbuch der allg. pathologische Anatomie. Leipzig, 1855, p. 312.
14. LANGHANS, TH.: Die Ubertragbarkeit der Tuberkulose auf Kaninchen. Habilitationsschrift. Marburg, J. A. Koch, 1868.
Uber Riesenzellen mit wandstandigen Kernen in Tuberkeln und die fibrose Form des Tuberkels. Virchow's Arch., **42:** 382, 1868.
15. SCHUPPEL, O.: Uber die Entstehung der Riesenzellen im Tuberkel. Arch. f. Heilkunde, **13:** 69, 1872.
Zur Histogenese der Lebertuberkulose. Arch. f. Heikunde, **9:** 524, 1868.
16. FRIEDLANDER, C.: Uber lokale Tuberkulose. Volkmann's Sammlg. kl. Vortg., **64:** 516, 1873.
Bemerkungen uber Riesenzellen und ihr Verhaltnis zur Tuberkulose. Berl. kl. Wsch., No. 37, 210, 1874.
17. WALDENBURG, L.: Die Tuberculose, die Lungenschwindsucht and Scrofulose. A. Hirschwald, Berlin, 1869.
18. VOLKMANN, R.: Lupus und Tuberkulose. Berl. kl. Wsch., **30:** 414, 1875.
19. HOMOLLE, G.: Des scrofulides-Lupus de la gorge. Centralbl. f. d. med. Wissenschft., p. 956, 1875.
20. HUTCHINSON, J.: On lupus and allied diseases. London Hospital Reports II, London, p. 125–137.
21. SCHULLER, M.: Uber die Stellung des Lupus zur Tuberkulose. Centralbl. f. Chirg., **8:** 97, 1881.
22. HUETER: Cited by Schuller.
23. BAUMGARTEN, P.: Tuberkelbakterien. Central bl. f. d. med. Wissenschft., **15:** 1882.
Uber Tuberkulose. Dtsch. med. Wsch., **22:** 1882.
24. DEMME, R.: Zur diagnostischen Bedeutung der Tuberkelbacillen fuer das Kindesalter. Berl. kl. Wsch., **20:** 217, 1883.
25. PFEIFFER, A.: Tuberkelbacillen in der lupus erkrankten conjunctiva. Berl. K. Wsch., **20:** 431, 1883.
26. DOUTRELPONT: Tuberkelbacillen in lupus. Mhts. prakt. Derm., **2:** 1883.
27. SCHUCHARDT, K., U. KRAUSE, F.: Uber das Vorkommen der Tuberkelbacillen bei fungosen und scrophulosen Entzundungen. Fortschr. d. Med., **1:** 277, 1883.
28. CORNIL ET LELOIR: Recherches expérimentales et histologiques sur la nature du lupus. Comp. red. hedb. des séances de la soc. de biol., 4 aout, 1883.
29. MARTIN, H.: Etude critique des opinons diverses qui ont cours aujourd'hui dans la science sur l'étiologie et la nature du lupus. Ann. de. Derm., **4:** 645, 1883.
30. VIDAL, E.: Contribution à l'étude de la tuberculose cutane. Ann. de Derm., **III:** 453, 1882.